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ABSTRACT

This report documents the recommendations derived from conference attention to five areas of concern: (1) responsibility of all sectors to enhance the individual's ability to make informed decisions on environmental issues; (2) the responsibility of all sectors to share information leading to enhanced ability to function in an environmentally responsible manner; (3) responsibility of all sectors to make manpower needs in environmental fields known to those managing career education programs; (4) the responsibility of communities to plan environmental education programs responsive to all sectors; and (5) the need for all sectors to reflect, in action, positive environmental education philosophies. Sectors, as defined by the conference, include business, education, government, environmental organizations, and social/service groups. Specific recommendations with supporting considerations addressing each of the five areas of concern are presented in the appendices. (RE)

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Summit Conference on Environmental Education - Report and Recommendations

SE 029 208

Document No. 79/25

DOC. NO. 79/25
July, 1979

SUMMIT CONFERENCE ON ENVIRONMENTAL EDUCATION

REPORT AND RECOMMENDATIONS

CONFERENCE DEVELOPED UNDER THE AUSPICES
OF THE
ENVIRONMENTAL EDUCATION ASSOCIATION OF ILLINOIS

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NOTE

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INTRODUCTION

Rationale

Environmental issues are complex problems with more diverse ramifications than formerly realized. Every facet of our environment is affected by economic, political, educational, social and moral factors. This reality necessitates an awareness by as well as a response from everyone. It requires personal involvement and a positive commitment toward decision making based upon values leading to cooperative, responsible action.

The environmental education audience must be broadened beyond classroom instruction and the responsibility for promoting environmental awareness must extend beyond special interest groups. The learning process involves business, educational institutions, government agencies, environment and conservation organizations, social and service groups and the general public, both as disseminators and recipients of environmental education. The knowledge upon which this education is based must be perpetually renewed by a reliable and relevant information system.

To ensure the success of environmental education programs we must acknowledge the status of localities and regions. Emphasis must be placed upon the local community as the critical nucleus for state-wide environmental awareness.

Development of Summit Conference on Environmental Education

The concept of the Summit Conference on Environmental Education was developed in the summer of 1978, under the auspices of the Environmental Education Association of Illinois with a grant from the Illinois Institute of

Natural Resources. Its purpose was to reassess environmental education in Illinois and to consider its new role for the 1980's.

The first task was to survey the present status of environmental education perspectives and involvement of business, educational institutions, government agencies, environmental and conservation organizations and the media. The results of a questionnaire distributed throughout the state disclosed five major areas of concern:

- WORKING RELATIONSHIPS: Determining ways to improve liaison, understanding and credibility among businessmen, environmentalists, educators and media.
- ENVIRONMENTAL EDUCATION IN THE SCHOOLS: Identifying what it should be and how it can be achieved.
- THE ENVIRONMENTAL WORKFORCE: Matching career education programs with environmental employment needs in business, government and education.
- ROLES AND RESPONSIBILITIES AT THE STATE LEVEL: Formulating proposals for government agencies, organizations, business and education.
- ORGANIZING ENVIRONMENTAL EDUCATION RESOURCES LOCALLY: Developing programs for cooperative and efficient use of all community resources.

These issues require an environmental education philosophy and program encompassing all sectors of society.

Subsequently, an invitational working conference was held in May 1979, at Allerton House in Monticello, Illinois. Nearly 75 representatives from business, education, government, environmental and conservation organizations, social and service groups dealt with the five topics and prepared recommendations to meet the objectives of each issue.

SUMMARY OF RECOMMENDATIONS

The Summit Conference on Environmental Education has directed its attention to the message for the 80's. Their recommendations involve all Illinois citizens in the environmental education process. They are based upon five objectives as identified below:

I. All sectors--business, educational institutions, government agencies, environment and conservation organizations, social and service groups--should provide adequate and appropriate education relative to environmental issues which enable individuals to interprete data, communicate with each other and make informed decisions on environmental matters.

II. All sectors should coordinate information to improve each group's ability to function with positive environmental impact.

III. All sectors should facilitate articulation between career education programs and the environmental employment needs of business, government and educational institutions.

IV. Communities should plan environmental education programs that consider the needs of all sectors.

V. All sectors should institute appropriate changes in their lifestyles that reflect a positive environmental education philosophy.

Although specific agencies are designated as developers of particular recommendations, where feasible, joint action is encouraged in implementing these programs.

These recommendations are summarized from the five session reports which are appended.

I. ALL SECTORS--BUSINESS, EDUCATIONAL INSTITUTIONS, GOVERNMENT AGENCIES, ENVIRONMENT AND CONSERVATION ORGANIZATIONS, SOCIAL AND SERVICE GROUPS--SHOULD PROVIDE ADEQUATE AND APPROPRIATE EDUCATION RELATIVE TO ENVIRONMENTAL ISSUES WHICH ENABLE INDIVIDUALS TO INTERPRETE DATA, COMMUNICATE WITH EACH OTHER AND MAKE INFORMED DECISIONS ON ENVIRONMENTAL MATTERS.

Environmental Education in the Schools

1. The Illinois Office of Education (IOE) to exert greater leadership in developing interpretation and environmental education in all local school districts. 4*
2. Students to apply principles taught to actual environmental problem solving in the community. Instruction both in formal and in informal situations should reflect interdisciplinary perspectives which utilize the services of professional practitioners. 2, 3, 5
3. The Board of Higher Education to exert greater leadership in planning environmental education in higher education institutions. 4
4. State universities and community colleges to take a leadership role in public environmental education through their continuing education mission. 2, 4
5. Teacher training institutions to be strong advocates of environmentally trained teachers. 2, 4

Disseminators and Recipients of Environmental Education Information

1. The Department of Conservation to give high priority to interpretation and environmental education. 4
2. Private environmental organizations, business and media are encouraged to develop materials and to disseminate objective information. 3, 4

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*Numbers indicate which session made recommendation in its final report.
1 - Working Relationships 2 - Environmental Education in the Schools
3 - The Environmental Workforce 4 - Roles and Responsibility at the State Level 5 - Organizing Environmental Education Resources Locally

3. Promote development of continuing environmental education programs for industrial employees. 3
4. Community resource centers (see IV-1) to establish a series of workshops conducted by marketing specialists to assist and prepare environmental educators to communicate their message in an effective and attractive manner. 5
5. Community resource centers (see IV-1) to identify existing sources of information on communication. 5

Publishing Materials

1. State agencies are responsible for presenting general information on environmental concerns in usable form to all interested parties. 4
2. The Illinois Institute of Natural Resources (INR)'s Annual Report to include a scorecard for environmental improvement, accurate data assessments of improved air and water quality, etc., develop interpretive summaries for use in press releases, pamphlets and articles and contain a concise interpretation of the environmental laws. 1
3. The INR to commit funds to the development of a more sophisticated system for dissemination of material in the Annual Report that provides complex information in understandable form to the general public. 1
4. Community resource centers (see IV-1) to work with state agencies in preparing educational guides to clarify technical information and regulations. 5

Further Considerations

1. The IOE to provide funding for implementing longitudinal studies on graduates of environmental education programs to assess what impact they have on long-term citizen behavior and community policies. 5
2. State-wide agencies to identify environmental education needs on a continuing basis. 4

II. ALL SECTORS SHOULD COORDINATE INFORMATION TO IMPROVE EACH GROUP'S ABILITY TO FUNCTION WITH POSITIVE ENVIRONMENTAL IMPACT.

1. Representatives from all sectors to contribute their available resources and develop procedures coordinating funding priorities and environmental education programs. 3
2. The INR, IOE and other agencies to establish a central information center to assist environmental education programs. The functions of this center could include, but not necessarily be limited to, identifying funding sources and priorities, locating environmental education materials, identifying sources of expert speakers, providing assistance in application procedures, providing a coordination link between potential applicants to avoid duplication and offering grantsmanship workshops. 3
3. The INR to create a specific program to examine the existing relationships among different sectors to determine which working and communicating relationships are needed to insure improved environmental education of the public and to determine strategies to build these linkages and strengthen existing ones. 1
4. The INR to support conferences that review major elements of environmental improvement programs and gather representatives from each conference for a joint review. This would provide an analysis of the key groups concerned with the environment and the status of their working relationships. 1
5. The INR to make the Summit Conference on Environmental Education an annual event to assess and make recommendations regarding environmental education progress. 4
6. The Conservation Education Advisory Board to invite and actively seek participation of other agencies. 4

III. ALL SECTORS SHOULD FACILITATE ARTICULATION BETWEEN CAREER EDUCATION PROGRAMS AND THE ENVIRONMENTAL EMPLOYMENT NEEDS OF BUSINESS, GOVERNMENT AND EDUCATIONAL INSTITUTIONS.

1. Educational institutions to create a vehicle soliciting input from non-academic sectors regarding specific recommendations on skills, knowledge and specialized experiences needed to enter environmental careers. 3
2. Educational institutions to reimpose measurable work standards such as (a) testable skills in the basics, (b) behavioral performance standards, i.e.: attendance, punctuality, task completion and self-discipline, and (c) challenging educational opportunities. 3
3. In order to facilitate interpretation of technical data, educational institutions should broaden the professional training of the natural scientific and engineering workforce with further skills in (a) social sciences and humanities and (b) basic social and interpersonal communication skills. 3
4. A coalition of industry, government, labor, business, environmental groups and educational representatives to form regional and local career guidance councils. They shall (a) consist of in-service guidance counselors and teachers, (b) provide appropriate guidance materials (c) develop programs for specific localities, (d) participate in career days and (e) provide on-site tours and work-related activities for students. 3
5. Industry and government to promote work experience through an education based occupational training program incorporating intern or cooperative educational experiences, paid and unpaid. 3
6. All sectors to institute personnel exchanges of sufficient length to assure a meaningful work experience. 3

7. Establishment of advisory groups representing multiple sectors to sponsor workshops and conferences on the environmental workforce. 3
8. The state to maintain a continuing survey of environmental and energy workforce projections and job descriptions. 4

IV. COMMUNITIES SHOULD PLAN ENVIRONMENTAL EDUCATION PROGRAMS THAT CONSIDER THE NEEDS OF ALL SECTORS.

1. The INR to promote the formation of community resource centers throughout Illinois by providing information, resource personnel, and limited funding. Each resource center to be wholly managed by a balanced group of citizens representing a broad range of local interests. Manpower and fiscal requirements of each center to be met by local organizations and volunteer groups. 5
2. Each community resource center to provide informational and educational services needed locally to include: interpretations of environmental law, dissemination of local information and assistance for local officials, citizens groups and business interests when faced with environmental issues. 5
3. All sectors within a community to be coordinated to address local environmental problems. 3
4. Representatives from all sectors to create a local and/or regional environmental workforce advisory board. (There may be a need for a state level board to provide coordination and leadership in encouraging the formation on a local level.) 3
5. The INR to conduct a public awareness campaign by publishing a directory of support services available for local groups. 2
6. The INR to develop and conduct training programs for local action. 2

7. The INR to coordinate inter-local group communication in the form of newsletters, conferences, etc. 2
8. The INR to have special targeting on local level for minority groups with regards to recommendations 6 and 7 above. 2
9. Local planning to include cooperation between home and school with K-12 environmental education programs responsive to and responsible to the public. 2

V. ALL SECTORS SHOULD INSTITUTE APPROPRIATE CHANGES IN THEIR LIFESTYLES TO REFLECT A POSITIVE ENVIRONMENTAL EDUCATION PHILOSOPHY.

1. The INR to play the role of catalyst for environmental education endeavors. 4
2. All state agencies to implement existing environmental education laws and plans in spirit and to the letter. 4
3. All state agencies to demonstrate environmentally sound "lifestyles", i.e.: institute the mandates in their own offices that they ask others to comply with as well. 4
4. All sectors to continue to communicate with and exert pressure on legislators to support environmental education. 4
5. Community planners to develop and utilize community resources to encourage an environmental and resource conservation ethic. Such activities might include outdoor classrooms, material areas, natural areas, live-in facilities and locally based research oriented approaches to environmental problems and solutions. 3
6. Mandatory resource recovery and recycling programs in the public schools. Concurrently, participating students to be permitted to retain income generated as an incentive for an economic base that will ensure perpetuation of the project. 3

APPENDIX I

SUMMIT CONFERENCE ON ENVIRONMENTAL EDUCATION

May 1-2, 1979
Allerton House
Monticello, Illinois

FINAL REPORT AND RECOMMENDATIONS

SESSION: WORKING RELATIONSHIPS

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Introduction

The lack of effective working relationships among the major groups concerned with environmental improvement, the complexity of the environmental message of the eighties, the lack of current, accurate data on environmental improvement, all contribute to poor communication of environmental information and poor understanding by the general public of current environmental programs. Environmental Education of the eighties must take on a broader definition than that of the seventies, reaching out to adults as well as students as all individuals will have a direct, personal role to play in solving key environmental problems.

The session on Working Relationships recommends that the IINR undertake an action program to overcome these barriers and increase the understanding of environmental quality information and programs in Illinois. We recommend the IINR investigate current linkages among the groups and determine which linkages need to be strengthened. We further recommend that IINR use current and proposed channels of communication, such as the annual conference on environmental quality and the proposed IINR Annual Report on the Status of Natural Resources in Illinois, to communicate current environmental information and the implications of major environmental laws for individuals in a concise, easy to understand manner.

Challenge of the Eighties

One challenge facing the governmental, business and public interest groups concerned with the environment will be how to communicate the environmental message of the eighties to the general public. By successfully communicating that message, these groups can seek to win public support for difficult, costly, and complex adjustments which must be made to achieve state and national environmental quality goals. Whereas the message of the sixties and seventies was relatively simple and direct, "Clean up the environment," the message of the eighties will be complicated by the following elements:

1. We now recognize the complexity of environmental improvement programs and the time needed to achieve measurable improvements in environmental quality;

2. Major achievements of environmental quality in the eighties will require much more individual action as opposed to action solely by industries and municipalities. Automobile travel, waste disposal, agricultural practices, energy use and costs will all be affected;

3. Implementation programs are very complex, hard to explain and based on standards which are difficult for the individual to comprehend;

4. Past accomplishments on the part of industry and government have not been clearly communicated by the media. There is little sense that our efforts to date have met with success;

5. As we look at the trade-offs among energy, environment, economy and individual freedoms of action, we need to build new consensus, often when little basis for consensus exists.

Current Status

A major barrier to communicating this complicated message exists. The communication links and working relationships among the key groups both in and out of government are poor and confused. An informal exercise by our session assessed the credibility levels among 13 major groups concerned with the environment and environmental education: Utilities, Industry, Federal Government, State Government, Local Government, Media, Colleges, Elementary/Secondary Education, Public Interest Groups, Agricultural Associations, Unions, Religious Groups and Professional Associations (see Table 1 for matrix). This revealed that the Federal Government, Public Interest Groups and Unions had the lowest credibility with the other groups, while Utilities, Industry, Colleges and Professional Associations ranked highest. On the other hand, Public Interest Groups and Unions hold other group's information in low esteem, while Elementary/Secondary Education and Religious Groups ranked highest in their opinion of others.

The discussion also revealed the specific lack of credibility between key groups, coming from a lack of communication or agreement on the significance of information communicated. This lack of communication will lead to an inability to agree on the major elements of the environmental message of the eighties.

Other deficiencies in improving working relationships and communicating the environmental issues clearly include: lack of a credible data base for environmental quality which both shows changes in environmental quality over time and provides the groups with current, accurate information; no effective mechanism for interpreting and communicating this data to the public--either through the media or through the channels provided by government such as publications or hearings; a lack of orientation on the part of government agencies towards packaging the information so that it relates to the personal lives and concerns of Illinois' citizens.

Objective

The primary objective for improving working relationships among groups concerned with the environment is to increase the understanding of environmental quality information and programs in Illinois by these groups and the general public. This objective calls for a broadening of the definition of environmental education to include the education of the adult population as to the dimensions of environmental problems and programs and their direct, personal involvement in these problems and programs.

Sub-Objective

The Illinois Institute of Natural Resources, in order to accomplish this objective must seek to establish improved, informal communication linkages among participants concerned with environmental issues by January 1, 1980. A specific program should be launched to examine the existing relationships among business, government, labor, environmental groups and agricultural groups. The

study should determine which working and communicating relationships are needed to insure improved environmental education of the public and determine strategies to build these linkages and strengthen existing ones.

Constraints

Several constraints must be overcome in order to begin to achieve the objective and sub-objective. First, these major groups have different views of the interpretation of environmental data and the significance of achievements to date. Further, they differ on the best implementation approaches to achieve the environmental goals established by federal and state legislation.

Second, the groups have differing levels of resources and energy to commit to environmental concerns. Thus, IINR could identify some groups as crucial to development of environmental consensus, and find them unwilling to cooperate for lack of interest or opposition to the particular program.

Third, the reports containing the environmental information and data with which IINR must work are often extremely technical in nature, written for engineers and lawyers rather than citizens and business groups. Therefore, the interpretation process for public understanding may prove very costly and extremely difficult.

Fourth, IINR and other agencies, such as the Illinois Environmental Protection Agency and the Illinois Pollution Control Board, may have their own credibility problems with the various groups and the public at large. The discussion indicated, however, that IINR has established a reputation for fairness among the key actors and was the most probable candidate for this communication process.

Strategies to Achieve the Objectives

IINR has a number of existing and proposed mechanisms available already with which to achieve this objective. They include: the Annual Conference on the Environment held each October in association with the IEPA and the IPCB, and the proposed annual report: The Status of Natural Resources in Illinois--1979. The following strategies suggest ways that these and other mechanisms could be modified to increase understanding of environmental information and improve working relationships among environmentally concerned groups.

1. The Annual Report should be seen not only as a technical document for dissemination of data on the state's natural resources, but as a scorecard for environmental improvement which can be used by the media and others for broader dissemination to the public. IINR should cooperate with IEPA on development of accurate data assessments of improved air and water quality, etc., print them in the report, then develop interpretive summaries for use in press releases, pamphlets and articles. Further, the report should contain a concise interpretation of the environmental laws relating to each medium (air, water, noise, wastes, etc.) along with a summary of how the laws will affect the public over the next year.

2. IINR should commit environmental education funds to the development of a more sophisticated system for dissemination of material in the report in usable format for the many audiences it must reach. It should employ concepts from the field of social marketing to achieve best results, using where appropriate, press releases, publication of articles in newsletters of organizations (such as the Illinois Environmental Education Association's UPDATE), public information brochures, films, etc. At the same time, IINR should examine effective strategies used in other states or fields for the dissemination of complex information to the general public. One example given was the federal fish and wildlife service plans.

3. IINR should commence as soon as possible an analysis of the key groups concerned with the environment and the status of their working relationships. Based on this information, it should consider the use of the Annual Conference on the Environment, other conferences, and other ad hoc fora to assemble these groups in the fall of 1979 and early 1980 to discuss the data, information and major elements of the environmental improvement programs of the state. The purpose would be to gain agreement on the meaning of the data and if possible on the major elements of the environmental messages of the eighties. By calling for a joint review of the annual report by these groups, IINR could receive useful input to its reporting process while focusing attention on the actual status of the environment. Obviously major differences will not be overcome by a few conferences or agreement on current status. However, the process does have the potential of building a better base for communication and consensus on environmental issues among the groups and elevating the discussion on the best ways to communicate these issues to the public.

TABLE 1 - MATRIX OF RELATIONSHIPS

	UTILITIES	INDUSTRY	FEDERAL GOVT.	STATE GOVT.	LOCAL GOVT.	MEDIA	COLLEGES	K-12	PUBLIC INTEREST GROUPS	AGRICULTURAL ASSOC.	UNIONS	RELIGIOUS GROUPS	PROFESSONAL ASSOCIATIONS	THESE BELIEVE OTHERS	
UTILITIES	X	5	2	4	5	3	4	2	0	4	3	3	5	40	
INDUSTRY	5	X	1	4	4	1	4	2	0	4	3	3	5	31	
FEDERAL GOVT.	3	3	X	3	3	2	3	4	4	3	1	3	4	36	
STATE GOVT.	4	4	1	X	1	3	4	4	3	4	1	3	4	36	
LOCAL GOVT.	5	4	1	2	X	4	3	5	3	4	2	3	5	39	
MEDIA	3	3	2	2	4	X	5	4	4	4	2	3	5	41	
COLLEGES	4	5	4	3	3	2	X	3	4	4	1	3	4	40	
K-12	4	4	4	3	5	4	5	X	2	5	3	5	5	51	HIGH
PUBLIC INTEREST GROUPS	1	1	3	1	3	4	4	4	X	1	1	3	3	29	LOW
AGRICULTURAL ASSOC.	4	4	2	3	4	2	4	4	1	X	1	3	4	36	
UNIONS	5	4	1	3	3	2	1	3	1	1	X	3	2	29	LOW
RELIGIOUS GROUP	4	4	3	5	3	4	4	3	4	5	3	X	4	46	HIGH
PROFESSIONAL ASSOC	5	5	3	3	1	1	5	4	2	4	1	3	X	37	
THESE ARE BELIEVED	47	46	27	36	39	32	46	42	28	43	23	38	50		
	HIGH	HIGH	LOW				HIGH		LOW		LOW		HIGH		

APPENDIX II

SUMMIT CONFERENCE ON ENVIRONMENTAL EDUCATION

May 1-2, 1979
Allerton House
Monticello, Illinois

FINAL REPORT AND RECOMMENDATIONS

SESSION: ENVIRONMENTAL EDUCATION IN THE SCHOOLS

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Introduction

While environmental education in Illinois schools has come a long way in the last five or more years, there is still an appalling lack of understanding of people's dependence on the earth ecosystem and consequent lack of understanding of environmental problems and need for changed behavior on the part of the general public as well as students K-12.

Problems

A. Lack of environmental awareness

1. The general public's lack of understanding of people's dependence on the earth ecosystem and thus of environmental problems.
2. This lack of understanding results in little or no local pressure for environmental education; often only occuring in the school where an individual teacher shows specific interest.
3. There is lack of understanding of and interest in EE on the part of many teachers.
4. Many people view environmentalists as promoters of negative projections, often using scare tactics.

B. Lack of common objectives

1. Many groups from the public and private sectors involved in environmental education have conflicting ideas and biases.
2. There is no general agreement or common objectives for environmental education, or even an agreement on its definition.

C. Confusion, lack of support and lack of communication at the state level.

1. State agencies, private organizations and the schools seem to present conflicting environmental messages.
2. The state mandate is for conservation education not environmental education.
3. Though we have a state plan for environmental education, it is not widely used.
4. Environmental education is seen to have a low priority at the Illinois Office of Education.
5. State mandates are established without funding, and there is little or no follow-up supervision.
6. Financial support for environmental education is decreasing while need is increasing.
7. People in the field have no idea how dollars and programs are allocated by the IOE.
8. Information dissemination on environmental education curriculum is limited.

D. Further Considerations

1. Back to basics school policies have forced many teachers to place environmental education lower in priority.

2. Resistance to programs mandated on the state and federal level.
3. Environmental education in just the schools is too restrictive.

Objectives

A. It is necessary to create an environmental education program for the local community that would plan for cooperation between home and school.

B. Environmental education for K-12 should be responsive to, and responsible to, an environmental education program for the local public. Such a program should:

   1. include all aspects of people's interaction with the environment (i.e.: energy, consumerism, nutrition)
   2. present environmental education in a positive way
   3. emphasize people

Recommendations

A. An Awareness Program: to communicate to the general public throughout Illinois awareness of general environmental concepts which are positive, non-threatening, non-offensive--giving a message which is irrefutable, fundamental, positive, clear, sound and simple.

   1. Organization

      a. Identify a leader - a key step and a key person
      b. Convene a taskforce
      c. Develop a program
      d. Obtain financial support
      e. Implement the program

   2. Strategies

      a. 30-60 second spots by the body politic which says thanks for working to solve issues
      b. Pamphlets/stuffers in general mailings
      c. Multi-media approach
      d. Perhaps a large industry who has credibility would take on parts of the enterprise
      e. Special targeting to minority groups

   3. Constraints

      a. If INR approaches the Governor, will he respond with all the other pressures on him
      b. Need to identify leader who can carry out enterprise
      c. Develop a program of continuity
      d. Careful identification of issues

B. Each locality should develop its own plan

1. Organization

   a. Local convener and others will identify and recruit the decision-makers and other people of influence in the community to work together on a local plan for environmental education.
   b. Local groups will plan environmental education to fit their community.
   c. Environmental education for all levels and groups (students, parents, teachers, administrators, business and labor, and the public at large) will be planned simultaneously.
   d. Environmental education will be broadly interpreted.

2. Strategies

   a. INR should establish an Information Service on community groups, community actions, state agencies, other resources, etc.
   b. INR should conduct a public awareness campaign on the availability of help in establishing local groups (as part of the statewide Awareness Program?)
   c. INR should develop and conduct training programs for local action to cover all four goals and objectives.
   d. INR should coordinate inter-local group communication (i.e.: newsletters, conferences).
   e. INR should have special targeting of a-d above to minority groups.

3. Constraints

   a. Way to identify/recruit convener of local group - a key person (respondent to statewide Awareness Program?)
   b. Inter-group antagonisms
   c. Lack of communication mechanisms between groups

C. Furtner recommendations

1. Local and state level efforts to bring about better coordination among agencies, business and industry, and educational institutions to benefit the children of Illinois.

2. Inclusion of environmental education in formal education of all students K-16 with special environmental education in teacher training.

3. Community planners should be urged to include a strong concern for conservation of natural resources in their local environmental education plan.

APPENDIX III

SUMMIT CONFERENCE ON ENVIRONMENTAL EDUCATION

May 1-2, 1979
Allerton House
Monticello, Illinois

FINAL REPORT AND RECOMMENDATIONS

SESSION: THE ENVIRONMENTAL WORKFORCE

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Summit Conference on Environmental Education

Message for the 80's

THE ENVIRONMENTAL WORKFORCE

Report of the Work Group on the Environmental Workforce

Introduction

What is the Environmental Workforce? The Environmental Workforce is poorly defined. Almost every vocation, occupation or career could be considered as an element in the environmental workforce because all workers have a potential to impact and contribute to the achievement of our environmental preservation and enhancement objectives. Although the environmental workforce is poorly defined, there are certain occupations which can be identified as specifically related to environmental activities. Again, the number of occupational classifications which could be considered as having major emphasis in environmental activities is numerous. The work group concluded that it was beyond the capability of the group to identify specific environmental occupations and quantify manpower and staffing needs within each environmental occupation in the time allotted. Consequently, the work group defined a broader goal as follows:

To facilitate articulation between career education programs and the environmental employment needs of business, industry, labor, government, environmental groups and education.

With the above goal defined, the workforce established as its working objectives to identify problems which interfere with effective articulation of career education program goals with environmental workforce manpower needs and to make recommendations which will facilitate articulation of employment needs with the educational system to assure a proper balance in the supply of manpower prepared to enter the environmental workforce.

PROBLEMS AND CONCERNS

The work group identified five major problem areas which impact the goal established by the work group. The five principal problems or concerns, which are better stated as objectives, are:

1. Give status to "non-professional" jobs through the career guidance system.

2. Create a proper balance between scientific/technical training and more generalized training in the environmental workforce.

3. Provide mechanisms to improve access to increase and make more efficient use of funding and other resources available for environmental education.

4. Develop an environmental, resource conservation and work ethic.

5. Improve communication and planning to provide accurate data on the manpower and skills needed to meet the demands of society.

The work group then proceeded to analyze each of the five objectives and to make specific recommendations to provide solutions to identified problems.

CONSTRAINTS

The work group identified six major constraints which interfere with our ability to achieve the objective of developing an adequate environmental workforce. The identified constraints are:

1. There exists no organized mechanism to affect change in Illinois environmental education.

2. Present mechanisms for course and academic program approval, particularly those of the Illinois Board of Higher Education and the Illinois Community College Board, impede implementation of changes in a reasonable time frame.

3. There is no systematic method to interchange information on employers' manpower needs, educational institutions, and qualified candidates for available positions.

4. Funding allocated to environmental education is inadequate, and sometimes available funds are used inefficiently.

5. A credibility gap exists between the various sectors involved in environmental education, e.g., business, industry, government, labor, education and environmental groups.

6. There is inadequate leadership to consolidate and coordinate environmental education in Illinois.

With these constraints in mind, the work group developed specific recommendations to resolve problems and overcome barriers created by the constraints.

PROBLEM ANALYSIS AND RECOMMENDATIONS

Objective: *Give status to "non-professional" jobs through the career guidance system.*

Discussion: Many careers in the environmental workforce require less than baccalaureate education. Such occupations are frequently referred to as "non-professional". All too frequently individuals are discouraged from entering the "non-professional" occupations because they lack status when compared to "professional" occupations.

Recommendations: Develop regional or local career guidance councils. Such councils would be a coalition of industry, government, labor, business, environmental groups and educational representatives. The educational representatives should include both career guidance coordinators and teachers. The councils shall:

1. Consist of in-service guidance counselors and teachers and provide appropriate guidance materials.
2. Develop programs appropriate to specific Illinois regions or localities.
3. Participate in career days.
4. Provide on-site tours and work-related activities for students.

Objective: *Create a proper balance between scientific/technical training and more generalized training in the environmental workforce.*

Discussion: There is inadequate communication between educators and employers concerning the balance between scientific, technical and vocational skills and general knowledge, particularly in areas related to social sciences and the humanities, required in the environmental workforce. This communication gap frequently results in preparation of students for environmental careers who do not have the proper balance of skills to function adequately to satisfy the empolyers' or society's needs.

Recommendations:

1. Encourage on-the-job experiences through cooperative or other internship programs matched to industry's research or workforce needs to provide properly balanced academic programs.
2. Create a desire among natural scientists and engineers to broaden professional training that will include work in (a) social sciences and humanities, (b) basic communication skills, (c) social interaction skills and (d) inter-personal communication skills.

3. Create a vehicle to solicit on-going input from non-academic sectors regarding specific recommendations on skills, knowledges and specialized experiences needed to enter environmental careers.

4. Encourage instruction that focuses on actual environmental problem solving reflecting interdisciplinary perspectives which utilize the services of professional practitioners.

5. Encourage development of continuing education programs for industrial employees. Explore possibilities of (a) releasing industrial employees during work hours, (b) offering more university or college courses at industrial sites during evening hours, (c) faculty/industry personnel exchanges and (d) rotation of employees where possible.

6. Implement the above by (a) lobbying with accrediting agencies, professional societies and citizens groups and (b) establishing advisory groups representing the multiple sectors with interest in the environmental workforce. Such a group might sponsor workshops, conferences or other programs to implement the recommendations of the work group.

Objective: *Provide mechanisms to improve access to, increase and make more efficient use of funding and other resources available for environmental education.*

Discussion: Financing environmental education programs has always been a problem. Funds and other resources for environmental education activities are available from many sources. Federal, state and local governments are potential sources of funds and technical expertise. Many agencies within the federal and state structure provide funding support for environmental education programs. Industry and business frequently provide financial and other resources to assist in environmental education programs. Many public and private foundations provide or are potential sources of funds for environmental education. Conservation and environmental groups may be able to support environmental education through direct funding, through provision of experts and materials, and by lobbying to gain public and political support for environmental education. Finally, the schools, both K - 12 and the post-secondary institutions are potential resources to assist in environmental education. The educational system could contribute by providing teachers, by giving release time to perform curriculum development work, by providing experts to participate in adult education and other workshops and through research activities.

Major problems are to identify potential funding sources and to process the proper paperwork to apply for and receive funding support. An important aspect to solution of this problem is to provide a central location from which environmental educators and others can receive assistance in identifying potential funding sources and assistance in preparing the appropriate applications for funding support. Concurrently, such a central clearinghouse could coordinate the application process so that multiple applicants do not compete unnecessarily

for the same funds. Such coordination could result in more efficient utilization of the limited funds available for environmental education.

Recommendations:

1. Establish a central clearinghouse to provide information on funding and other resources available to assist in environmental education programs. The functions of the clearinghouse could include, but not necessarily be limited to, identifying funding sources, identifying and locating environmental education materials, identifying sources of expert speakers, providing assistance in application procedures, providing a coordination link between potential applicants to avoid duplication and overlap, recommending priorities for funding programs, developing and providing specific information and data on the total resources required to accomplish environmental education objectives and offering "grantsmanship" workshops.

2. Develop methods or procedures to coordinate funding priorities and programs. The coordinating body should include all those groups who have available resources to contribute to environmental education. Appropriate representatives for such a coordinating council are those identified in the discussion paragraph above.

Objective: *Develop an environmental, resource conservation and work ethic*

Discussion: Much has been said on the need to develop increased appreciation and motivation for a job well done. This problem is pervasive. Many groups have attempted to address it. Solution to the problem is critical if the environmental workforce is to effectively accomplish its objectives to improve and maintain environmental quality. A corollary need is to develop an awareness and appreciation, an ethic, within the general population for environmental quality awareness and resource conservation.

Recommendations:

1. In order to improve the work ethic, the following are recommended:

   a. Reimpose measurable work standards such as:

      (1) Testable skills in the basics, such as English and math
      (2) Behavioral performance standards as they relate to attendance, punctuality, task completion and self-discipline
      (3) Challenging educational opportunities

   b. Promote work experience and cooperative education programs with industry and government through an education system based occupational training program which incorporates intern or cooperative education experiences, both paid and unpaid.

2. In order to improve the environmental and resource conservation ethic, the following are recommended:

a. Mandatory resource reuse and recycling programs be instituted in the public schools. Extracurricular activities related to the environment and resource conservation/reuse should be elevated to a status comparable to that afforded the athletic programs at educational institutions. Concurrently, the students participating in resource recovery and recycling activities should be permitted to retain income generated by such activities as an incentive for and an economic base to continue such programs and related activities.

b. Develop and exploit community resources to encourage an environmental and resource conservation ethic. Such activities might include outdoor classrooms and materials areas, natural area, live-in facilities and locally based research oriented approaches to environmental problem solutions.

3. Develop educational programs which are oriented to environmental imperatives, such as natural resources, pollution and environmental quality. Interrelate environmental benefits with economic benefits. Environmental programs must be closely tied to the "pocketbook" issues if they are to be successfully sold to the public. Economic imperatives and economic survival mandate better and wiser use of our limited natural resources.

Objective: *Improve communication and planning to provide accurate data on the manpower skills needed to meet the demands of society.*

Discussion: In many cases, manpower needs and employee skill requirements are not well articulated by potential employers with the educational systems which produce candidates for positions. Inadequate data bases exist to identify available environmental workforce employment positions and to identify persons qualified to satisfy the employers' needs. Better communication between employers, educators and potential employees/students must be established.

Recommendations:

1. Establish local and/or regional environmental workforce advisory boards. Membership on such boards should include representatives from education, industry, business, environmental groups, government and labor. There may be a need for a state level board to provide coordination and leadership to encourage the formation of local/regional boards.

2. Establish training and workshop programs on environmental and employment issues within all involved sectors. Consider establishing some inter-sector training and workshop programs.

3. Establish procedures to affect exchange of personnel between all concerned sectors. The interchange should be of sufficient length to assure a meaningful work experience.

4. Establish cooperative projects, work groups or task forces at local and/or regional levels to address local/regional environmental problems and their solutions. These must be action-oriented groups.

CONCLUSION AND OVER-ALL RECOMMENDATION

Many of the problems identified above relate to inadequate communication between the various sectors having a vital interest in the environment and the environmental workforce. Insufficient data exist on workforce needs and workforce skills required to function in environmental occupations. Confusion reigns in environmental education. Too many people are doing too many things in their own way. Many of the recommendations made by the Work Group on Environmental Workforce relate to establishing effective communication channels at local, regional and state levels. Therefore, the Work Group makes the following major recommendation:

Establish a state level board, council or task force to provide leadership in environmental education and to affect the implementation of the recommendations of the Summit Conference on Environmental Education.

NOTES ON THE WORK GROUP

The Work Group on the Environmental Workforce consisted of thirteen persons. Of the thirteen representatives seven were educators: five at the post-secondary level and two at the secondary level; three were industry representatives; two were from government agencies; and only one represented an environmental action group. There were no labor representatives in the work group or at the Conference. Because the work group consisted predominantly of educators, our findings and conclusions may be biased toward recommendations to improve the educational process and to improve communications between educators and employers. As the Post-Conference Task Force evaluates the findings of the Work Group on the Environmental Workforce, the limitations in the makeup of the work group should be considered.

APPENDIX IV

SUMMIT CONFERENCE ON ENVIRONMENTAL EDUCATION

May 1-2, 1979
Allerton House
Monticello, Illinois

FINAL REPORT AND RECOMMENDATIONS

SESSION: ROLES AND RESPONSIBILITIES AT THE STATE LEVEL

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Introduction

It is the intention of this author to report briefly but accurately some of the proceedings and moreover, the outcomes of the Summit Conference on Environmental Education held May 1-2, 1979 at Allerton House, Monticello, Illinois. This was done based upon an earlier agreement by members of this group and because a more comprehensive report incorporating results of all working groups will be prepared in the near future.

The membership reflected quite well the attitudes and current thinking relative to environmental education and the issues upon which that program focuses. Members included four university educators, five federal, state and local government agency staff, three industry spokesmen, and two community organization representatives, each contributing substantially to the identification of needs and to outlining possible solutions to problems.

Perception of Environmental Education Problems

The needs or problem areas seemed to be rather easily identified. They included a perceived weakness in or even lack of: adequate training programs for teachers at both the pre-service and in-service levels, resource materials which are prepared or presented in an organized and effective format, funding available in state agencies which reflects sincere interest in the program as a priority, a statewide resource services organization, bureau or unit to collect, compile, and make available to all publics, materials related to a myraid of environmental issues, and finally considerable emphasis was given the need for a full-time environmental education consultant in the Illinois Office of Education.

Objectives

As goals were determined and measurable objectives necessary to attain those goals were developed, the decision was made to consider only two very comprehensive and interrelated goals for discussion. Those goals were as follows: (1) to increase public awareness relative to environmental issues in both the formal and informal education setting. Emphasis however was placed mainly on the classroom situation, grades kindergarten through college. The curriculum should be interdisciplinary in nature and range from (1) a general awareness of our natural and man-made environments through (b) an understanding of issues and their economic considerations to (c) job skills and finally, (d) during graduate school - applied research endeavors. However, more understanding of immediate environmental issues is also imperative to sound decision making by the adult community. As the importance of this aspect increased, the inadequacy of the presently available lines of communication from "those who know to those who don't and should" became more pronounced. The second broad goal therefore was then written (2) the provision of adequate and appropriate information relative to environmental issues for all sectors of the community which enables individuals to become informed decision-makers.

With these goals in mind, the following objectives or strategies surfaced:

1. Statewide agencies and organizations should be persistent advocates of increased public environmental awareness and participation.
2. The establishment of regular communication and cooperation among statewide agencies and organizations relative to philosophies, goals and objectives.
3. Statewide organizations and agencies should provide guidance, resources and technical services to local individuals as well as educational and informational units.
4. Statewide agencies and organizations should make a concerted assessment of the environmental and social trade-offs which will result from their decisions and actions.

Recommendations

As the above mentioned objectives were reviewed the majority of the committee began to focus more attention upon the state agencies as the groups responsible for finding solutions and implementing steps to alleviate problems. Although some organizations were viewed as having responsibilities in some areas, the general consensus appeared to focus on state government action.

In that regard, responsibilities for attaining objectives were listed:

1. Teacher training institutions should be strong advocates of environmentally trained teachers.
2. All state agencies should implement existing state laws and plans--in spirit and letter--concerning environmental education.
3. All state agencies should demonstrate environmentally sound "lifestyles."
4. In view of statewide dissatisfaction regarding environmental education as perceived by members of the Summit Conference, state agencies, especially the Illinois Department of Conservation, and the Illinois Office of Education should significantly shift program priorities to interpretation and environmental education.
5. Statewide agencies should identify environmental education needs on a continuing basis.
6. State agencies are responsible for presenting general information on environmental concerns in useable form to all interested parties.
7. The Conservation Education Advisory Board should invite and actively seek participation of other agencies.
8. The Illinois Office of Education should exert greater leadership in developing environmental education in local school districts.
9. The Board of Higher Education should exert greater leadership in planning environmental education in higher education.
10. State universitites and the community colleges should take a leadership role in public environmental education through their continuing education mission.

11. The Illinois Institute of Natural Resources should make the Summit Conference an annual event to assess and make recommendations regarding environmental education progress.
12. The Illinois Office of Education and the Illinois Institute of Natural Resources should produce a directory of state agencies with a summary of available services for use by schools (and non-school agencies).
13. The relationships between health, welfare and environment should be an integral part of environmental education.
14. The State should maintain a continuing survey of environment and energy work force projections.
15. Industry should be informed of possible advantages of new career areas in their work.
16. There should be continuing communication with and pressures exerted on legislators to support environmental education.
17. Private environmental organizations as well as business and industry should be encouraged to develop materials and to conduct public information sessions to increase environmental education.
18. The Illinois Institute of Natural Resources should play the role of catalyst among educational endeavors.
19. Private sector views should be communicated statewide to agencies where they will be available for dissemination to the general public upon request.

APPENDIX V

SUMMIT CONFERENCE ON ENVIRONMENTAL EDUCATION

May 1-2, 1979
Allerton House
Monticello, Illinois

FINAL REPORT AND RECOMMENDATIONS

SESSION: ORGANIZING ENVIRONMENTAL EDUCATION RESOURCES LOCALLY

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Introduction

The following statements do not represent all knowledge of environmental education activities in Illinois. They reflect issues that members of the session assigned to consider the organizing of environmental education resources locally. Several of those concerns may have been addressed previously or may be in the process of implementation. The session members also caution that the implementation of those objectives will not be easy, and that the best methods of achievement may not be identified.

Current Status of Community Environmental Education

Several important changes that have occurred in the last ten years and that have affected communities' capacity to address their environmental problems have been identified:

1. The meaning of the word "environment" has changed; instead of one problem, specialization has caused environmental problems to be fragmented among a host of regulatory agencies. Not all of these are pertinent to any one community.
2. There has been a proliferation in the number of specialized environmental regulations which offer improved environmental protection yet leave local decision-makers, teachers, and activists unable to easily keep pace with the current facts.
3. An enormous environmental data bank has been accumulated; this represents a great wealth. However, there is little guidance to allow local groups access to those data.
4. Nevertheless, environmental education curricula are now readily available to train school students to become effective, environmentally-conscious citizens.
5. Most industries are now developing environmental programs that integrate community interests.
6. However, only a small percentage of citizens have become capable of mobilizing public opinion to provide adequate input at the appropriate stages of planning.
7. Use of local resources has been shown to be more effective than the use of resources of state agencies.
8. The success of mediation to resolve local environmental conflict is increasing; rational approaches are being shown to be effective.

Objectives

Certain problems with community environmental action arise because of the current status of community environmental education. These problems can be minimized by working toward the objectives described below which fall into three categories.

I. Communications

A. Educators must, in general, become better equipped to communicate with other sectors involved in environmental matters.

B. Effective communication means need to be found to relate the requisite technical data in terms that the layman can understand.

C. Educators should strive to avoid parochialism and elitism in order to better communicate with the average person.

D. Establish a means of dealing effectively with the media.

II. Coordination

A. It would be desirable to consolidate the currently fragmented goals of those having environmental concerns.

B. Bring all interested parties together to establish sound, effective solutions to local environmental problems.

C. Provide educational resources to local communities to combat the confusion imposed upon them by the large number of regulations coming from the federal and state agencies.

D. A central resource of information should be established to coordinate environmental education.

III. Education

A. Encourage those responsible for city planning to include environmental considerations.

B. Discover a means to continuously educate elected officials who may change at the whims of the electorate.

C. Encourage individuals to lead their private lives in an environmentally sound manner.

Recommendations

The recommendations include establishment of an organization to provide a focal point for environmental interests and suggested guidelines for effective communication, coordination, and specific educational recommendations.

1. Local Educational Organizations (Community Resource Centers)

The IINR should promote the formation of community resource centers throughout Illinois by providing information, resource personnel, and limited funding. Limited funding and organizations by IINR are encouraged to give the resource center an effective platform from which it can approach the community until it reaches a stage of maturity. Each resource center should be wholly managed by a balanced group of citizens representing a broad range of local interests. Manpower and, eventually, fiscal requirements of each center should be met by local organizations and volunteer groups.

The specific function of each center will be to provide those informational and educational services needed locally. Services which could be provided include interpretations of environmental law, dissemination of local information and assistance for local officials, citizens groups, and business interests when they face environmental issues.

The success or failure of these centers will ultimately depend upon the amount of acceptance, support, and interaction they are able to generate with already recognized community organizations.

2. Communication

Prime to the success of the resource center will be an ability to communicate. It is suggested that each center establish a committee to inform local citizens about local issues. The members of the committee should include representatives of labor, media, schools, industry, business, and government. The prime role of the committee will be to select and market information pertinent to the community. Recommended methods for the committee include:

a. Identification of exisiting sources of information on communication
b. Establishment of a series of workshops conducted by marketing specialists to assist and prepare environmental educators to communicate their message in an effective and attractive manner, and
c. Working with state agencies to prepare educational guides to clarify technical information and regulations.

Community members should be asked for advice and approached in non-threatening ways. Thus, the community can be informed about issues rather than feel their established behavioral patterns are being threatened.

3. Coordination

It is imperative that all involved with environmental issues work to develop and provide a means whereby local individuals and organizations with diverse environmental interests can be brought together on common grounds to exchange information and work together to solve environmental problems in a rational and effective way. Means of bringing the entities together are to organize around a central issue and identify a catalyst for all interested parties.

Goals for coordination services include:

a. Identification of priorities to each parties,
b. Establishment of a medium for continuing dialogue and information exchange, and
c. Providing a means for issue oriented problem-solving.

4. Environmental Education

Environmental education programs should exist for all schools. Principles taught in these programs should be applied by the students to actual situations in the community environment as identified by the community resource centers.

Funding should be provided by the Illinois Office of Education to perform longitudinal studies on graduates of environmental programs to assess what impact they have on long-term citizen behavior and community policies.